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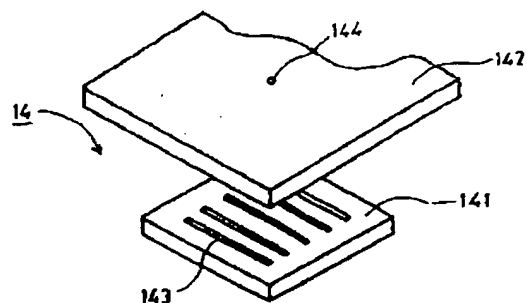
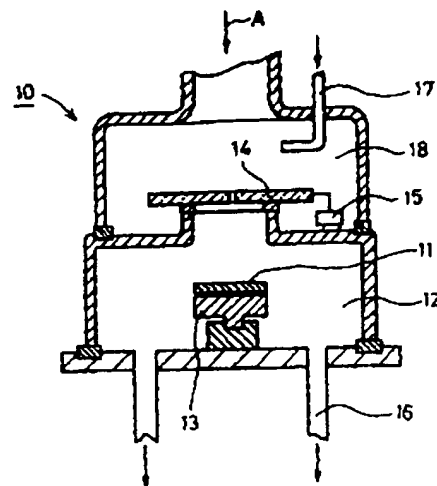
APPLICATION DATE : 09-09-82
APPLICATION NUMBER : 57157813

APPLICANT : FUJITSU LTD;

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TITLE : MANUFACTURE OF
SEMICONDUCTOR DEVICE



ABSTRACT : PURPOSE: To cut a fuse type memory cell efficiently without damaging a wafer by injecting a plasma etching gas from a nozzle.

CONSTITUTION: The wafer 11 incorporating the fuse type memory cells for selecting a redundancy circuit is fixed onto a base 13, and a shielding plate 14 is set in the upper opening of a chamber 12. Slits 143 corresponding to the memory cells of the wafer 11 are disposed to the fixed plate 141 of the shielding plate 14, and the nozzle 144 is set up at the center of a moving plate 142. The plate 142 is driven 15 and moved up to a position required. $\text{CF}_4 + \text{O}_2$ gas is introduced after evacuation, the degrees of vacuum of a plasma generating chamber 18 and the treating chamber 12 are adjusted, and the fuse layers of the poly Si conductors of the fuse type memory cells, to which cutting is needed, in the wafer 11 are removed through plasma etching. The wafer 11 is not damaged owing to chemical etching, in which radicals are used mainly, as compared to ion etching, while a selection ratio can be increased, and the method displays effects on the improvement of reliability and efficiency.

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